Amendments to the Claims:

Please cancel claim 2 without prejudice to pursuing this claim in a continuation or other application. Please add new claims 51-56. Following is a complete listing of the claims pending in the application, as amended:

1.   (Cancelled)

2.   (Cancelled)

3.   (Previously Presented)   A method for treating essential tremor, comprising:

directing a patient to perform a muscle action;

directing a computer-based routine to collect information corresponding to a level of neural activity in the patient's brain while the patient performs the muscle action; and

at least reducing an essential tremor motion of the patient by applying an electrical stimulation at least proximate to a stimulation site, the location of the stimulation site being based at least in part on the information.

4-5.   (Cancelled)

6.   (Previously Presented)   A method for treating essential tremor, comprising:

directing a patient to perform a muscle action;

directing information to be collected on blood oxygen levels in the brain, the information corresponding to a level of neural activity in the patient's brain while the patient performs the muscle action; and

at least reducing an essential tremor motion of the patient by applying an electrical stimulation at least proximate to a stimulation site, the location of the stimulation site being based at least in part on the information.

7.   (Previously Presented)   A method for treating essential tremor, comprising:

    directing a patient to perform a muscle action;

    directing information to be collected, the information corresponding to a level of neural activity in the patient's brain while the patient performs the muscle action;

    locating a stimulation site based at least in part on the information and positioned relative to an anatomical feature of the patient; and

    at least reducing an essential tremor motion of the patient by applying an electrical stimulation at least proximate to the stimulation site.

8.   (Previously Presented)   A method for treating essential tremor, comprising:

    directing a patient to perform a muscle action;

    directing information to be collected, the information corresponding to a level of neural activity in the patient's brain while the patient performs the muscle action;

    locating a stimulation site based at least in part on the information relative to a fiducial having a fixed location relative to the patient's skull; and

    at least reducing an essential tremor motion of the patient by applying an electrical stimulation at least proximate to the stimulation site.

9.   (Cancelled)

10.   (Previously Presented)   A method for treating essential tremor, comprising:

    directing a patient to perform a muscle action a first time;

    directing first information to be collected, the first information corresponding to a level of neural activity in the patient's brain while the patient performs the muscle action the first time;

    affecting the patient's motor nerves by introducing a drug into the patient's body;

directing second information to be collected while the patient performs the muscle action a second time and while the patient is under the influence of the drug;

directing a comparison of the first information with the second information to identify a stimulation site of the brain; and

at least reducing an essential tremor motion of the patient by applying an electrical stimulation at least proximate to the stimulation site.

11. (Previously Presented) A method for treating essential tremor, comprising:

directing a patient to perform a muscle action;

directing information to be collected, the information corresponding to a level of neural activity in the patient's brain while the patient performs the muscle action; and

at least reducing an essential tremor motion of the patient by administering drugs to the patient and applying an electrical stimulation at least proximate to a stimulation site, the location of the stimulation site being based at least in part on the information.

12. (Cancelled)

13. (Previously Presented) A method for treating essential tremor, comprising:

directing a patient to perform a muscle action;

directing information to be collected, the information corresponding to a level of neural activity in the patient's brain while the patient performs the muscle action; and

at least reducing an essential tremor motion of the patient by applying an electrical stimulation at least proximate to a stimulation site, the location of the stimulation site being based at least in part on the information, the electrical stimulation including a varying electrical stimulation signal having an electrical potential of from about 0.25 volts to about 5.0 volts.

14.   (Cancelled)

15.   (Previously Presented)   A method for treating essential tremor, comprising:

    directing a patient to perform a muscle action that includes maintaining a muscle in a particular position;

    directing information to be collected, the information corresponding to a level of neural activity in the patient's brain while the patient performs the muscle action; and

    at least reducing an essential tremor motion of the patient by applying an electrical stimulation at least proximate to a stimulation site, the location of the stimulation site being based at least in part on the information.

16.   (Cancelled)

17.   (Previously Presented)   A method for treating essential tremor, comprising:

    obtaining first information corresponding to a level of neural activity in the patient's brain while the patient does not perform a muscle action;

    directing a patient to perform the muscle action;

    directing second information to be collected, the second information corresponding to a level of neural activity in the patient's brain while the patient performs the muscle action; and

    at least reducing an essential tremor motion of the patient by applying an electrical stimulation at least proximate to a stimulation site, the location of the stimulation site being based at least in part on a comparison of the second information with the first information.

18.   (Previously Presented)   A method for treating essential tremor, comprising:

    directing the patient to undergo a plurality of muscle actions;

selecting from the plurality of muscle actions a muscle action that produces a selected level of essential tremor motion;

directing a patient to perform the muscle action to produce the selected level of essential tremor motion;

directing information to be collected, the information corresponding to a level of neural activity in the patient's brain while the patient performs the muscle action; and

at least reducing an essential tremor motion of the patient by applying an electrical stimulation at least proximate to a stimulation site, the location of the stimulation site being based at least in part on the information.

19.   (Original) A method for treating essential tremor, comprising:

identifying a muscle action subject to essential tremor;

monitoring a first image of the patient's brain function while the patient is not performing the muscle action;

monitoring a second image of the patient's brain function while the patient performs the muscle action;

comparing the first and second images to identify a stimulation site of the brain;

placing at least one electrode at least proximate to the stimulation site;

at least reducing the patient's essential tremor motion by applying an electrical stimulation at least proximate to the stimulation site.

20.   (Original) The method of claim 19 wherein comparing the first and second images includes comparing a first image having visual characteristic with a first value at least proximate to the stimulation site with a second image having the visual characteristic with a second value different than the first value at least proximate to the stimulation site.

21.   (Original) The method of claim 19 wherein comparing the first and second images includes comparing a first image having a first baseline region and a first activity region corresponding to increased brain activity relative to the first baseline region, with a second image having a second baseline region and a second region corresponding to

increased brain activity relative to the second baseline region, a location of the second activity region being different than a location of the first activity region.

22.   (Original) The method of claim 19 wherein comparing the first and second images includes comparing a first image having a first baseline region and a first activity region corresponding to increased brain activity relative to the first baseline region, with a second image having a second baseline region and a second activity region corresponding to increased brain activity relative to the second baseline region, with a brain activity level of the second activity region being different than a brain activity level of the first activity region.

23.   (Original) The method of claim 19 wherein identifying a stimulation site includes determining a region of the patient's brain that corresponds to a portion of the image that changes at least one characteristic as the patient performs the muscle action.

24.   (Original) The method of claim 19 wherein monitoring the first image includes monitoring a first functional MRI image, and wherein monitoring the second image includes monitoring a second functional MRI image.

25.   (Original) The method of claim 19 wherein comparing the first and second images includes:

   determining a first region of a first hemisphere of the patient's brain corresponding to a portion of the image that changes at least one characteristic as the patient performs the muscle action; and

   determining the stimulation location to include a second region of a second hemisphere of the patient's brain, the second region corresponding functionally to the first region.

26.   (Original) A method for treating essential tremor, comprising:

   directing a patient to perform a muscle action;

while the patient performs the muscle action, directing a collection of information corresponding to a level of neural activity in the patient's brain;

directing a comparison of a first portion of the information corresponding to a level of neural activity at the left hemisphere of the patient's brain with a second portion of the information corresponding to a level of neural activity at the right hemisphere of the patient's brain; and

at least reducing an essential tremor motion of the patient by applying an electrical stimulation at least proximate to a stimulation site, with a location of the stimulation site being based at least in part on the comparison of the first and second portions of the information.

27.   (Original) The method of claim 26 wherein at least reducing an essential tremor motion includes eliminating the essential tremor motion.

28.   (Original) The method of claim 26 wherein directing information to be collected includes directing a computer-based routine to collect the information.

29.   (Original) The method of claim 26, further comprising directing the formation of an image of at least a portion of the patient's brain, with at least a portion of the image having features representative of the information.

30.   (Original) The method of claim 26, further comprising implanting at least one electrode at least proximate to the stimulation site, and wherein applying an electrical stimulation includes applying an electrical signal to the at least one electrode.

31.   (Original) The method of claim 26 wherein applying an electrical stimulation includes applying a varying electrical stimulation signal having a frequency of from about 5 Hz to about 200 Hz.

32.   (Original) The method of claim 26 wherein applying an electrical stimulation includes applying a varying electrical stimulation signal having an electrical potential of from about 0.25 volts to about 5.0 volts.

33. (Original) The method of claim 26 wherein directing the patient to perform a muscle action includes directing the patient to move the muscle.

34. (Original) A method for treating essential tremor, comprising:

directing a patient to perform an action with a first muscle on a first side of the patient's body, the first muscle being controlled by a second hemisphere of the patient's brain;

while the patient performs the action with the first muscle, directing a collection of first information corresponding to a level of neural activity in the patient's brain;

directing the patient to perform an action with a second muscle on a second side of the patient's body, the second muscle mirroring the first muscle and being controlled by a first hemisphere of the patient's brain;

while the patient perform an action with the second muscle, directing a collection of second information corresponding to a level of neural activity in the patient's brain; and

at least reducing an essential tremor motion of the patient by applying an electrical stimulation at least proximate to a stimulation site, with a location of the stimulation site being based at least in part on a comparison of the first information with the second information.

35. (Original) The method of claim 34 wherein at least reducing an essential tremor motion includes eliminating the essential tremor motion.

36. (Original) The method of claim 34 wherein directing information to be collected includes directing a computer-based routine to collect the information.

37. (Original) The method of claim 34, further comprising directing the formation of an image of at least a portion of the patient's brain, with at least a portion of the image having features representative of the information.

38.   (Original) The method of claim 34, further comprising implanting at least one electrode at least proximate to the stimulation site, and wherein applying an electrical stimulation includes applying an electrical signal to the at least one electrode.

39.   (Original) The method of claim 34 wherein applying an electrical stimulation includes applying a varying electrical stimulation signal having a frequency of from about 5 Hz to about 200 Hz.

40.   (Original) The method of claim 34 wherein applying an electrical stimulation includes applying a varying electrical stimulation signal having an electrical potential of from about 0.25 volts to about 5.0 volts.

41.   (Original) The method of claim 34 wherein directing the patient to perform a muscle action includes directing the patient to move the muscle.

42.   (Original) A method for treating essential tremor, comprising:
directing a collection of first information corresponding to a level of neural activity in the patient's brain while the patient performs a muscle action;
affecting the patient's motor nerves by introducing a drug into the patient's body;
directing a collection of second information corresponding to a level of neural activity in the patient's brain while the patient performs the muscle action and while the patient is under the influence of the drug; and
at least reducing the patient's essential tremor motion by applying an electrical stimulation at least proximate to a stimulation site, with a location of the stimulation site being based at least in part on the comparison of the first information with the second information.

43.   (Original) The method of claim 42 wherein introducing a drug includes introducing ethyl alcohol.

44.   (Original) The method of claim 42 wherein at least reducing an essential tremor motion includes eliminating the essential tremor motion.

45. (Original) The method of claim 42 wherein directing information to be collected includes directing a computer-based routine to collect the information.

46. (Original) The method of claim 42, further comprising directing the formation of an image of at least a portion of the patient's brain, with at least a portion of the image having features representative of the information.

47. (Original) The method of claim 42, further comprising implanting at least one electrode at least proximate to the stimulation site, and wherein applying an electrical stimulation includes applying an electrical signal to the at least one electrode.

48. (Original) The method of claim 42 wherein applying an electrical stimulation includes applying a varying electrical stimulation signal having a frequency of from about 5 Hz to about 200 Hz.

49. (Original) The method of claim 42 wherein applying an electrical stimulation includes applying a varying electrical stimulation signal having an electrical potential of from about 0.25 volts to about 5.0 volts.

50. (Original) The method of claim 42 wherein directing the patient to perform a muscle action includes directing the patient to move the muscle.

51. (New) The method of claim 15 wherein the information includes second information and wherein applying an electrical stimulation at least proximate to a stimulation site includes applying an electrical stimulation to a stimulation site having a location based on a comparison of the second information with first information, the first information corresponding to a level of neural activity in the patient's brain while the patient does not perform the muscle action.

52. (New) The method of claim 15 wherein applying an electrical stimulation includes applying a varying electrical stimulation signal having a frequency of from about 5 Hz to about 200 Hz.

53. (New) The method of claim 15 wherein applying an electrical stimulation includes applying a varying electrical stimulation signal having an electrical potential of from about 0.25 volts to about 5.0 volts.

54. (New) The method of claim 17 wherein the information includes second information and wherein applying an electrical stimulation at least proximate to a stimulation site includes applying an electrical stimulation to a stimulation site having a location based on a comparison of the second information with first information, the first information corresponding to a level of neural activity in the patient's brain while the patient does not perform the muscle action.

55. (New) The method of claim 17 wherein applying an electrical stimulation includes applying a varying electrical stimulation signal having a frequency of from about 5 Hz to about 200 Hz.

56. (New) The method of claim 17 wherein applying an electrical stimulation includes applying a varying electrical stimulation signal having an electrical potential of from about 0.25 volts to about 5.0 volts.